



Curriculum Improvement Partnership Award FOR THE Integration of Research (CIPAIR)

**2011 Annual
Performance
Report**



PROJECT GOALS AND OBJECTIVES

The primary goal of CIPAIR is to help two-year and four-year Minority Serving Institutions (MSIs) strengthen their curricula in order to attract more students into STEM-based academic programs, retain them, and prepare them for success when they take the next steps in their education or in their careers. The strategy for achieving improvements in curriculum and in student-learning outcomes is built upon four elements:

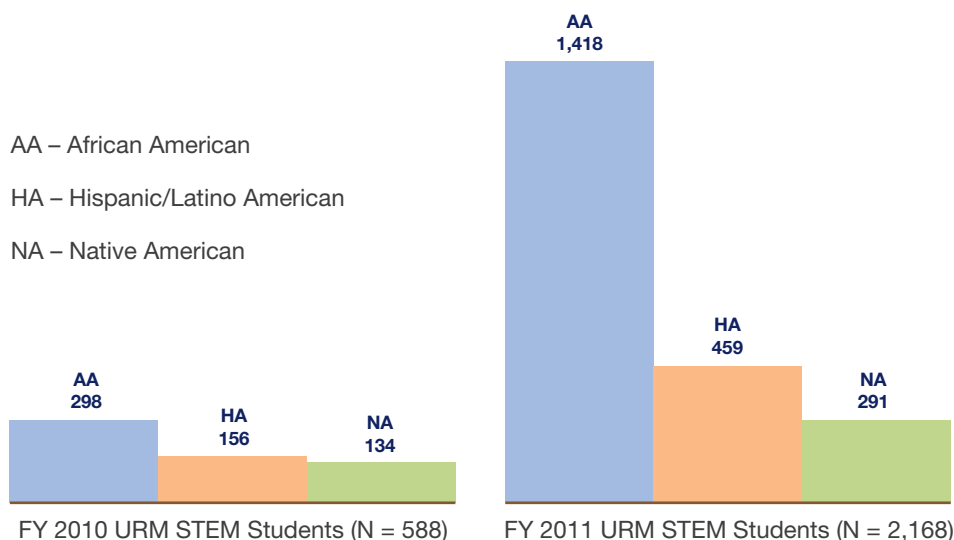
1. Establishment or strengthening of relationships of MSIs faculty with NASA Centers;
2. Integration of NASA-related content and research opportunities into the MSIs curriculum;
3. Involvement of students in curriculum development and improvement; and
4. Commitment of the MSIs administration to long-term sustainability.

PROJECT ACCOMPLISHMENTS IN 2011

During 2011 the following accomplishments were noted:

- Expansion of the CIPAIR Project to include 29 MSIs that have obtained little or no prior NASA funding (21% increase from 2010);
- Inclusion of 12 HBCUs (41%); 10 HSIs (35%); 3 TCIs (10%); and 4 Other MSIs (14%);
- Representation of 17 Community Colleges or two-year institutions (59% of total CIPAIR MSIs);
- 33 CIPAIR PI's, Co-PI's and Office of Sponsored Research staff participated in the 2nd Annual Orientation and Procurement Workshop held at JPL on January 31 through February 3, 2011.
- 95 New or Revised/Infused STEM Courses Offered (150% increase from 2010). *This outcome addresses Annual Performance Goal 10ED1: Number of new or revised courses targeted at the STEM skills needed by NASA that are developed with NASA support.*
- 3,178 Students Instructed (2,168 or 68% were Underrepresented and Underserved Minority Students) — 1,418–African Americans; 459–Hispanics/Latino; and 291–Native Americans. Females represented 49% of the total CIPAIR URM students instructed. *This outcome addresses Annual Performance Goal 10ED3: Number of underrepresented and underserved students participating in NASA higher education program.*

**CIPAIR
Underrepresented
Minority Students
(URM) Instructed
(FY 2010 and
FY2011)**



MAJOR CIPAIR 2011 SOLICITATION TIMELINE

The Education Opportunities in NASA STEM (EONS) Solicitation Announcement Number NNH11ZHA002C released on Wednesday, January 19, 2011, also included the CIPAIR 2011 NRA. Other major milestones are listed below.

CIPAIR EONS Solicitation Major Milestones and Procurement Announcements

Dates	Milestone
January 14–January 20	4 Regional Pre-Solicitation Technical Workshops Offered
January 19	CIPAIR EONS Solicitation Released
January 31–February 4	CIPAIR Orientation & Procurement Workshop – (Pasadena, CA) – For FY2009 (CIPAIR Cohort #1) & FY2010 (CIPAIR Cohort #2) PI's & Grants Administrative Staff
February 2	Notice of Intent (NOI) Deadline
March 16	Proposal Due Date
March 28–April 14	On-line Peer Reviews
April 26–28	Expert Panel Consensus Meeting, Washington, D.C. (2.5 Days)
June 13–17	NASA Executive Review Meeting/Panel Debrief
August 11	Selection Announcement/Congressional Advance/Press Release

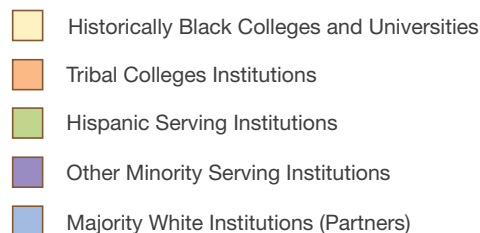
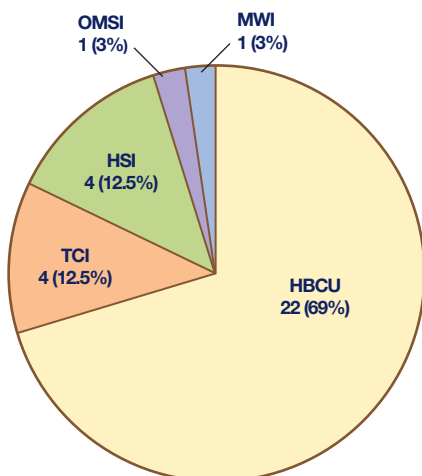
REGIONAL TECHNICAL WORKSHOPS & NOTICE OF INTENT TO PROPOSE (NOI)

Dr. Lenell Allen, CIPAIR Project Manager (JPL) and Mr. Clarence Brown, Manager, Division of Science and Technology Programs with the United Negro College Fund Special Programs (UNCF-SP), conducted three CIPAIR Regional Technical Workshops. Two additional “Joint EONS” Workshops were conducted on January 20, 2011, and February 23, 2011 (see below). A total of 87 individuals representing 32 institutions and 11 U.S. states participated in the five CIPAIR FY2011 workshops. In FY2010, there were a total of 52 individuals representing 33 institutions and 15 U.S. states.

Regional Technical Workshops

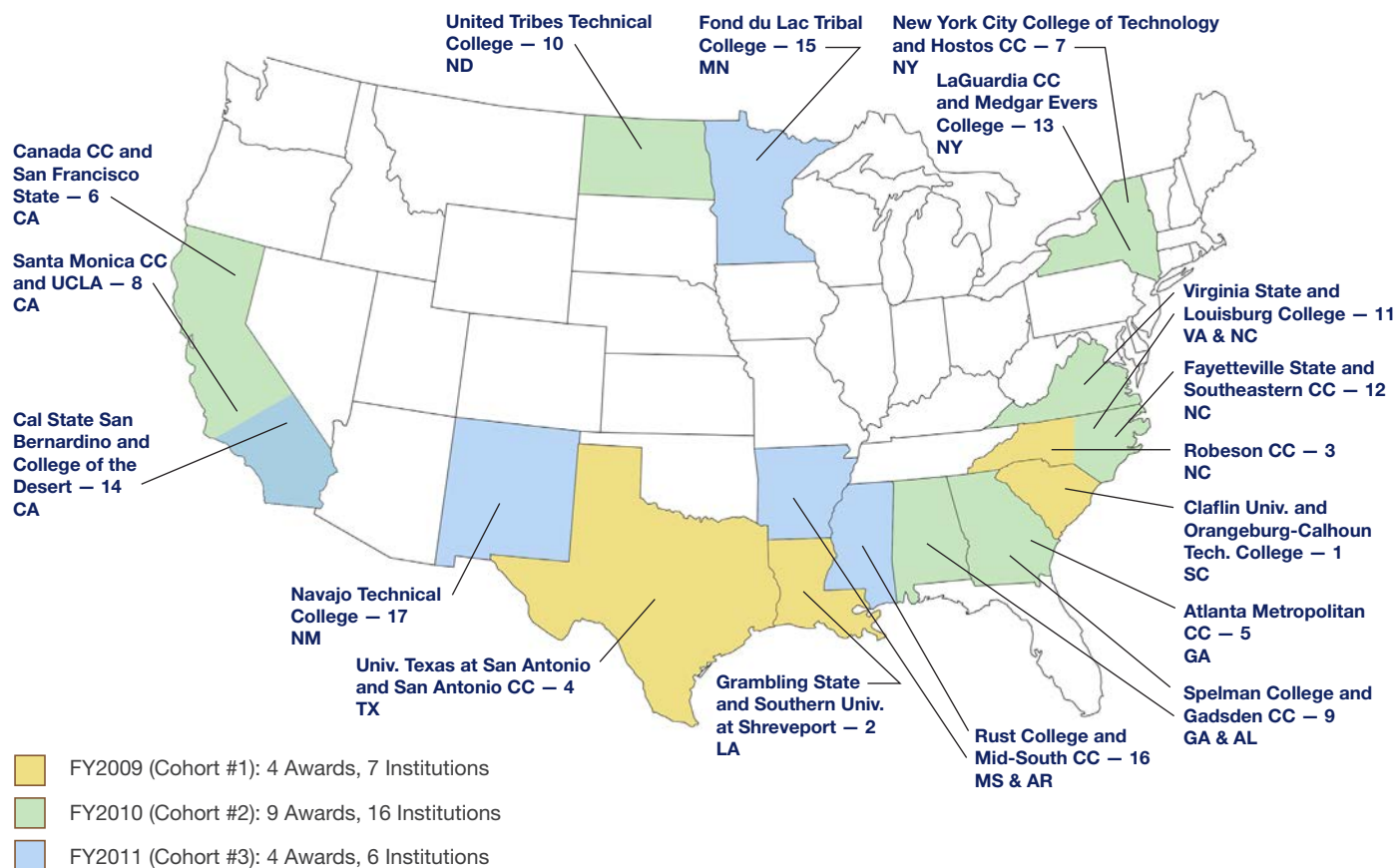
Dates (FY2011)	Location
January 14th (Friday)	Atlanta Metropolitan College, Atlanta, GA
January 18th (Tuesday)	San Jacinto Community College, Pasadena, TX
January 20th (Thursday)	EONS 1st Joint Workshop & Webinar, Washington, D.C.
February 7th (Monday)	United Tribes Technical College, Bismarck, ND
February 23rd (Monday)	EONS 2nd Joint Workshop, Huntsville, AL

CIPAIR 2011 Regional Technical Workshop Institutions



Number of Institutions (N=32)

GEOGRAPHICAL DISPERSION



PI Orientation and Procurement Workshop



NASA Jet Propulsion Laboratory — January 31–February 3, 2011

First row: Vicki Drake, Jennith Thomas, Nieves Angulo, Ken Brandt, Amelito Enriquez, Carl Person

Second row: Naidu Seetala, Janice McCollom, Moroline Washington, Singli Garcia-Otero, Jennifer Brown, Jose Castillo, Lenell Allen

Third row: John Bianchini, Bogdan Czejdo, Wanda Staggers, Uruthira Kalapathy, Margaret Lowder

Fourth row: Gaffar Gailani, Victoria Nunes, Lisa Hunt, Rebekah Olson, Dan Dimitriu

Fifth row: Barry Hester, Hatim Sharif, David Gavasci, Nesan Sriskanda, Bryan Mitchell, Ehsan Sheybani, Peter Chen

RECIPIENT OF 2010 PRESIDENTIAL MENTORING AWARD

Dr. Amelito Enriquez

By Kimberly Orr



“As a result of CIPAIR, our students are more confident about succeeding in a four-year school”

Growing up in the Philippines, Amelito Enriquez knew nothing of high expectations. He wasn't expected to be the first student in his high school's history to go to a university — especially for a degree in engineering. He wasn't expected to receive the highest grade point average in the engineering department's history -- he wasn't even expected to be more than a “C” student. He wasn't expected to continue his education in the United States and become one of the country's most inspirational educators. And he wasn't expected to receive a presidential honor for his career-long commitment to helping underprivileged youth succeed.

“I like proving people wrong,” said Enriquez, a professor of engineering and mathematics at Cañada College in Redwood City, California, who recently received the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring. Over the years, he certainly has.

It was sixteen years ago that Enriquez first discovered his calling. “After grad school, I started applying for teaching jobs at four-year institutions,” said Enriquez. “Being from the Philippines, I didn't know about community colleges. When I realized what they were, I thought, this is me. I knew I could really make a difference at a community college.” Turning down multiple offers at four-year institutions, Enriquez began his career at Cañada College in 1995 and never looked back — except when his mentor periodically phoned him to see if he'd reconsider the university route. He wouldn't.

Enriquez's students start very much like he did. They come from disadvantaged backgrounds where expectations are at a minimum, if not nonexistent. “The students I work with score high enough to be accepted into community college,” said Enriquez. “But their math and science scores are below average. A lot of them are at the high school algebra level.”

Inspiring these students to go from barely getting by to reaching way beyond anyone's expectations is Enriquez's passion, and he achieves it through a variety of grants and programs. One such program — which Enriquez says has given his students the rare opportunity to get hands-on research experience — is NASA's Curriculum Improvements Partnership Award for the Integration of Research, or CIPAIR. CIPAIR brings minority college students and their teachers to NASA centers for research projects aimed at improving curriculums for future generations of students. Through their experiences with the NASA program, Enriquez and his students have so far contributed to more than a dozen curriculum improvements at Cañada College, adding activities and lessons on launching satellites, designing a Mars rover and more.

“As a result of CIPAIR, our students are more confident about succeeding in a four-year school,” said Enriquez. “And almost all of them are now considering advanced degrees.”

In early December 2011, Enriquez flew to Washington, D.C., to accept his mentorship award from President Barack Obama. While Enriquez considers it a great honor to be recognized for his hard work, he says that in a way, he already feels rewarded. “As part of the application process, my students had to write letters about why I should be recognized,” he said. “A lot of students wrote in. Just reading those letters was really more of an honor than I could ask for.”

It's also proof that inspiration goes a long way. “That's the best thing a teacher can give to a student,” said Enriquez. “It's inspiration. It's to get kids to do something bigger than themselves.”

A YEAR OF ACCOMPLISHMENTS AND ACHIEVEMENTS

Robeson Community College (RCC) was among 49 institutions to receive \$18.8M from the U.S. Departments of Labor and of Education to help sustain their CIPAIR project. RCC is serving as the “Consortium Leader” for North Carolina Advanced Manufacturing Alliance (NCAMA) comprising 10 community colleges. RCC will receive \$4.1M of the total amount awarded to the consortium to assess, train, and certify displaced manufacturing workers.

Visiting NASA Kennedy Space Center. Front row: Dave Gavasci (Co-Principal Investigator), RCC students Peter Hunt and Ronald Scott, Jennifer Brown (Principal Investigator), and RCC students Katherine Richardson, Cody Locklear, and Porsche Cook, with Angela McNeill, RCC mathematics faculty member. Back row: Brandon Williams and Chris Concepcion (U. North Carolina Pembroke students), RCC student Shirly Cooper, Jason York (U. North Carolina Pembroke student), and RCC students James Hendrix and Kayla Brisson.



Shawn Mull (left) and Marcus Thornton (Virginia State students).



Left to right: Hostos Community College students Fernando Viteri, Aridia Polanco, and Co-Principal Investigator Dr. Nieves Angulo, Nicolas DeJesus, Adrian Posada at a NASA Goddard Space Flight Center Research Symposium.

National Project Manager and Editor: Lenell Allen, Ph.D., Jet Propulsion Laboratory (JPL). CIPAIR is managed for NASA by JPL in Pasadena, California.

For more information about CIPAIR, visit the NASA Education website —

www.nasa.gov/offices/education/programs/descriptions/Curriculum_Improvements_Partnership_Award.html